BRUHAT BANGALORE MAHANAGARA PALIKE

Yelahanka Zone

MEASUREMENT SHEET

1ST AND FINAL BILL

Name of work: The work of Providing and laying of 600 mm dia RCC Sewerage pipeline from Elements Mall SWD to Thanisandra BBMP office (Near Railway Underpass) along Thanisandra Main road coming under Ward no.6- Thanisandra, Byatarayanapura sub division.

Estimated Cost : Rs. 120.00 Lakhs

Job Code: 006-19-000028 P 3111 State Finance Commission United Grant

Head of Account : P-3111 Special Development Works

Work order No: BBMP/EE/BTP/WO/ 11 /2020-21 Dated :15-05-2020

Name of Agency: D.R Infrastructure, Sri Dilip T.S, Door No 115/A, Opp to UAS Layout, 1st Main Road, RMV 2nd stage, Bangalore-560094

	Measurements Recorded on :			
1	**Cutting road surfaces for pipeline trenches** and disposing of the excavated stuff as directed including barricading, danger lighting etc. in the classifications for:Asphalt Road.(BWSSB SR 17-18 No. 16.2 Code:A105B) Page 56			
	Qty Taken from Pre measurements Item No. page No.	**381.60**	**938.70**	**358207.92**
2	**EXCAVATING FOR PIPE LINE TRENCHES OF REQUIRED WIDTH** by mechanical / & manual means including dressing sides, ramming of bottoms, providing barricading, danger lighting, shoring, strutting, dewatering, etc. IN ALL KINDS OF SOIL MIXED WITH BOULDERS of 30 cms size, etc. for: Pipes of all dia. for depth upto 2.0 M in all types of soils Note : If any shoring and strutting, will be paid separately as per the direction of the Engineer Incharge of the Work with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work			
	Qty Taken from Pre measurements Item No. page No.	**2671.20**	**175.35**	**468394.92**
3	Pipes of all dia. for **depth 2.0 to 4.0 M** in all types of soils Note : If any shoring and strutting, will be paid separatelyas per the direction of the Engineer Incharge of the Work with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work			
	Qty Taken from Pre measurements Item No. page No.	**839.70**	**236.25**	**198379.13**
4	EXCAVATING FOR PIPE LINE TRENCHES OF REQUIRED WIDTH by mechanical / & manual means including dressing sides, ramming of bottoms, providing barricading, danger lighting, shoring, strutting, dewatering, etc. IN DISINTEGRATED ROCK, **SOFT ROCK,** SOFT SHALE AND MEDIUM HARD ROCK COMPRISING OF LIME STONE, SAND STONE, HARD SHALE, SCHIEST, FISSURED ROCK without resorting to blast etc. forPipes of all dia. for depth upto 2.0 M Note : If any shoring and strutting, will be paid separately as per the direction of the Engineer Incharge of the Work with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work Considering 20% of Earth work Quantity			
	Qty Taken from Pre measurements Item No. page No.	**534.24**	**424.20**	**226624.61**

Contractor Consultant Assistant Engineer Assistant Executive Engineer

5	EXCAVATING FOR PIPE LINE TRENCHES OF REQUIRED WIDTH by mechanical / & manual means including dressing sides, ramming of bottoms, providing barricading, danger lighting, shoring, strutting, dewatering, etc. IN DISINTEGRATED ROCK, SOFT ROCK, SOFT SHALE AND MEDIUM HARD ROCK COMPRISING OF LIME STONE, SAND STONE, HARD SHALE, SCHIEST, **FISSURED ROCK** without resorting to blast etc. foras per the direction of the Engineer Incharge of the Work with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work								
	Qty Taken from Pre measurements Item No. page No.						**125.96**	**483.00**	**60838.68**
6	EXCAVATING FOR PIPE LINE TRENCHES OF REQUIRED WIDTH by mechanical / & manual means including dressing sides, ramming of bottoms, providing barricading, danger lighting, shoring, strutting, dewatering, etc. IN **HARD LATERITE ROCK** CONTAINING IRON ORE ABOVE 20% BY CHISETELING AND TRIMMING TO PROPER SLOPE etc. for:: Pipes of all dia. Pipes of all dia. for depth 2.0 to 4.0 mtr as per the direction of the Engineer Incharge of the Work with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work Considering 5% of Earth work Quantity								
	Qty Taken from Pre measurements Item No. page No.						**41.99**	**1082.55**	**45456.27**
7	Providing and installing **sheet piling for both sides of the trenches** for following depths with mild steel sheets of not less than 6.5 mm thick, stronger knife edge, recessed spreader sockets, 3 inch single or double wall shields, to be designed by the contractor to withstand all types of soils, maximum depth as per the approved design drawings, including labour charges for installing and removing the sheet piling at various reaches of sewer line constructions, including loading, unloading, transporting to the suitable location etc. complete with all lead and lifts. (Measurement shall be taken for one side only even though it is provided for both sides).For depth 3.0 m to 6m and as per the direction of the Engineer Incharge of the Work with all lead and lift , loading and unloading and allother incidental charges etc.,complete as per specification and direction of the engineer-in-charge of the work								
	Qty Taken from Pre measurements Item No. page No.						**750.00**	**836.85**	**627637.50**
8	**REFILLING OF EARTH** around pipelines, in layers not exceeding 20 cms. in depth, compacting each deposited layer by ramming after watering all lead and lift including cost of all labour including consolidation by mechanical means approved by the Engineer in charge, when earth is at suitable moisture content with desired field density upto 95% maximum dry density (modified heavy proctor test) for restoration of roads without settlement including HOM of machineries, complete. (The contractor shall take care while consolidating the earth, so that, pipes laid are not damaged due to mechanical compaction and shall restore the damaged pipes at his own cost, in case of damage) etc. with: Approved earth available nearby, lead upto 100 M and lift upto 1.5 M. Note: In exceptional cases, earth may be obtained from borrow pit with extra lead, duly obtaining approval from the Chief Engineer (BWSSB SR 17-18 No. 14.1 Code:A095A) Page 56								
	Total E.W.E 0-2 mtr							2671.20	
	Total E.W.E 2-4 mtr							839.70	
	Total E.W.E [A]							**3510.90**	
	Deductions								
	Total Pipe Volume		1223.40	0				**345.73**	
	Manhole Volume,		39.000	1	1.50	1.50	0.15	10.33	
	Manhole Volume =		39.000	3	0.60	0.60	2.64	116.39	
	Bedding using Approved stone dust		**Qty Vide Item No. 21**					305.28	

Contractor Consultant Assistant Engineer Assistant Executive Engineer

	Providing Wet Mix Macadam	Qty Vide Item No. 25						305.28		
	Total Deductions [B]							**1083.01**		
	Refilling qty [C] = [A]- [B]		Cum					**2427.89**		
							TOTAL	**2427.89**		
						Limited to Tender Qty		**2005.45**	**108.15**	**216889.42**
9	**Disposal off the excess** excavated earth of all types by vehicle including loading, unloading with all lead and lifts, labour, HOM of machineries etc. for: Distance of 10 KM (BWSSB SR 17-18 No: 20.5. Code:A115E & F) Page 57									
	total earthwork	2+3+4+5 +6						4232.71		
	deduct refil qty							-2427.89		
							TOTAL	**1804.82**		
						Limited to Tender Qty		**1499.36**	**255.15**	**382561.70**
10	**Supplying S&S RCC SPUN** / VIBRATED CAST PIPES (REINFORCED) pipes NP-3 Class conforming to IS:458-1988 with latest amendments using ordinary portland cement, for sanitary works and conveying to work site, rolling and lowering into trenches, laying true to line and level including loading and unloading at both destinations and jointing of pipes and specials including cost of specials, perfect linking of joints with jack to correct position including cost of jointing materials, i.e, rubber rings conforming to IS: 5382 for S&S RCC pipes, with all leads and lifts as directed and giving necessary hydraulic test as per ISS to the required pressure and commissioning etc. complete. (Contractor will make his own arrangements for procuring water for testing). Before the execution of the work, the contractor shall carry out the survey and will be paid extra for the same as per seperate item.:RCC NP3 Class pipe of 600 mm dia.(BWSSB SR 17-18 No: 5.7 Code:T050G) Page 159									
	Qty Taken from Pre measurements Item No. page No.							**1223.40**	**3265.50**	**3995012.70**
11	Providing and constructing **"WIRE CUT BRICK MANHOLE CHAMBERS"** using suplhate resistant cement, coNickel in shape attop, with CC 1:3:6 foundation using 40 mm and down size graded metal of approved quality and with an offset of 0.15M alround the chamber. Construct Brick masonry in CM 1:4, 340 mm thick, with wirecut bricks of approved quality, plaster inside and out side with CM 1:3, 12 mm thick, except for the coNickel surface outside wherethe plaster thickness shall be 20 mm. Slope inside to be 1:6 in theconcrete towards central drain and finished smooth. Fixing of pipes in CC 1:2:4 with graded metal of 20 mm and down size. Supplying and fixing SFRC manhole frame and cover conforming to IS:12592 with latest amendment, in CC 1:2:4. Supplying and fixing footsteps made of 12 mm dia. steel bars (Fe-415) with 3 mm thick plastic encapsulation (IS-10910). The footsteps shall be fixed 30cms apart and on CC block embedded to masonry wall. The whole works include excavation in all types of soils, watering, curing, barricading, danger lighting, pouring tar over MH frame and cover, cost of tar, shoring, strutting, de-watering, engraving manhole number with flow direction on the inner coNickel surface etc. as per the drawing etc. as per technical specifications and for the following diameters and depth etc. for Constructing Brick Masonry Circular Manholes **1.5 m internal dia. & 1.0 M depth include** SFRC F&C (BWSSB SR 17-18 No. 104.1 Code:T310A) Page 169									
	MHEXE	MH1	600.00	Nos	1				1.00		
	MH1	MH2	600.00	Nos	1				1.00		
	MH2	MH3	600.00	Nos	1				1.00		
	MH3	MH4	600.00	Nos	1				1.00		
	MH4	MH5	600.00	Nos	1				1.00		
	MH5	MH6	600.00	Nos	1				1.00		

Contractor Consultant Assistant Engineer Assistant Executive Engineer

	MH6	MH7	600.00	Nos	1				1.00		
	MH7	MH8	600.00	Nos	1				1.00		
	MH8	MH9	600.00	Nos	1				1.00		
	MH9	MH10	600.00	Nos	1				1.00		
	MH10	MH11	600.00	Nos	1				1.00		
	MH11	MH12	600.00	Nos	1				1.00		
	MH12	MH13	600.00	Nos	1				1.00		
	MH13	MH14	600.00	Nos	1				1.00		
	MH14	MH15	600.00	Nos	1				1.00		
	MH15	MH16	600.00	Nos	1				1.00		
	MH16	MH17	600.00	Nos	1				1.00		
	MH17	MH18	600.00	Nos	1				1.00		
	MH18	MH19	600.00	Nos	1				1.00		
	MH19	MH20	600.00	Nos	1				1.00		
	MH20	MH21	600.00	Nos	1				1.00		
	MH21	MH22	600.00	Nos	1				1.00		
	MH22	MH23	600.00	Nos	1				1.00		
	MH23	MH24	600.00	Nos	1				1.00		
								TOTAL	**24.00**	**23379.30**	**561103.20**

12	Providing and constructing "**WIRE CUT BRICK MANHOLE CHAMBERS**" using suplhate resistant cement, coNickel in shape attop, with CC 1:3:6 foundation using 40 mm and down size graded metal of approved quality and with an offset of 0.15M alround the chamber. Construct Brick masonry in CM 1:4, 340 mm thick, with wirecut bricks of approved quality, plaster inside and out side with CM 1:3, 12 mm thick, except for the coNickel surface outside wherethe plaster thickness shall be 20 mm. Slope inside to be 1:6 in theconcrete towards central drain and finished smooth. Fixing of pipes in CC 1:2:4 with graded metal of 20 mm and down size. Supplying and fixing SFRC manhole frame and cover conforming to IS:12592 with latest amendment, in CC 1:2:4. Supplying and fixing footsteps made of 12 mm dia. steel bars (Fe-415) with 3 mm thick plastic encapsulation (IS-10910). The footsteps shall be fixed 30cms apart and on CC block embedded to masonry wall. The whole works include excavation in all types of soils, watering, curing, barricading, danger lighting, pouring tar over MH frame and cover, cost of tar, shoring, strutting, de-watering, engraving manhole number with flow direction on the inner coNickel surface etc. as per the drawing etc. as per technical specifications and for the following diameters and depth etc. for **Depth above 1m and below 2 m** (36,923-22,266) = 14,657/-											
	MHEXE	MH1	600.00	M	1				1.00		
	MH1	MH2	600.00	M	1				1.00		
	MH2	MH3	600.00	M	1				1.00		
	MH3	MH4	600.00	M	1				1.00		
	MH4	MH5	600.00	M	1				1.00		
	MH5	MH6	600.00	M	1				1.00		
	MH6	MH7	600.00	M	1				1.00		
	MH7	MH8	600.00	M	1				1.00		
	MH8	MH9	600.00	M	1				1.00		
	MH9	MH10	600.00	M	1				1.00		
	MH10	MH11	600.00	M	1				1.00		
	MH11	MH12	600.00	M	1				1.00		
	MH12	MH13	600.00	M	1				1.00		
	MH13	MH14	600.00	M	1				1.00		
	MH14	MH15	600.00	M	1				1.00		
	MH15	MH16	600.00	M	1				1.00		
	MH16	MH17	600.00	M	1				1.00		
	MH17	MH18	600.00	M	1				1.00		
	MH18	MH19	600.00	M	1				1.00		
	MH19	MH20	600.00	M	1				1.00		
	MH20	MH21	600.00	M	1				1.00		
	MH21	MH22	600.00	M	1				1.00		
	MH22	MH23	600.00	M	1				1.00		
	MH23	MH24	600.00	M	1				1.00		

Contractor

Consultant

Assistant Engineer

Assistant Executive Engineer

									24.00		
								TOTAL	20.40	15389.85	313952.94
13	Providing and constructing **"WIRE CUT BRICK MANHOLE CHAMBERS"** using suplhate resistant cement, coNickel in shape attop, with CC 1:3:6 foundation using 40 mm and down size graded metal of approved quality and with an offset of 0.15M alround the chamber. Construct Brick masonry in CM 1:4, 340 mm thick, with wirecut bricks of approved quality, plaster inside and out side with CM 1:3, 12 mm thick, except for the coNickel surface outside wherethe plaster thickness shall be 20 mm. Slope inside to be 1:6 in theconcrete towards central drain and finished smooth. Fixing of pipes in CC 1:2:4 with graded metal of 20 mm and down size. Supplying and fixing SFRC manhole frame and cover conforming to IS:12592 with latest amendment, in CC 1:2:4. Supplying and fixing footsteps made of 12 mm dia. steel bars (Fe-415) with 3 mm thick plastic encapsulation (IS-10910). The footsteps shall be fixed 30cms apart and on CC block embedded to masonry wall. The whole works include excavation in all types of soils, watering, curing, barricading, danger lighting, pouring tar over MH frame and cover, cost of tar, shoring, strutting, de-watering, engraving manhole number with flow direction on the inner coNickel surface etc. as per the drawing etc. as per technical specifications and for the following diameters and depth etc. for Constructing Brick Masonry Circular Manholes **1.5 m internal dia. & 2.0 M depth include** SFRC F&C (PWSSP SR 17-18 No. 104.2 Code:T210B) Page 160										
	MH20	MH21	600	Nos	1				1.00		
	MH21	MH22	600	Nos	1				1.00		
	MH22	MH23	600	Nos	1				1.00		
	MH23	MH24	600	Nos	1				1.00		
	MH24	MH25	600	Nos	1				1.00		
	MH25	MH26	600	Nos	1				1.00		
	MH26	MH27	600	Nos	1				1.00		
	MH27	MH28	600	Nos	1				1.00		
	MH28	MH29	600	Nos	1				1.00		
								TOTAL	9.00	38769.15	348922.35
14	Providing and constructing **"WIRE CUT BRICK MANHOLE CHAMBERS"** using suplhate resistant cement, coNickel in shape attop, with CC 1:3:6 foundation using 40 mm and down size graded metal of approved quality and with an offset of 0.15M alround the chamber. Construct Brick masonry in CM 1:4, 340 mm thick, with wirecut bricks of approved quality, plaster inside and out side with CM 1:3, 12 mm thick, except for the coNickel surface outside wherethe plaster thickness shall be 20 mm. Slope inside to be 1:6 in theconcrete towards central drain and finished smooth. Fixing of pipes in CC 1:2:4 with graded metal of 20 mm and down size. Supplying and fixing SFRC manhole frame and cover conforming to IS:12592 with latest amendment, in CC 1:2:4. Supplying and fixing footsteps made of 12 mm dia. steel bars (Fe-415) with 3 mm thick plastic encapsulation (IS-10910). The footsteps shall be fixed 30cms apart and on CC block embedded to masonry wall. The whole works include excavation in all types of soils, watering, curing, barricading, danger lighting, pouring tar over MH frame and cover, cost of tar, shoring, strutting, de-watering, engraving manhole number with flow direction on the inner coNickel surface etc. as per the drawing etc. as per technical specifications and for the following diameters and depth etc. for **Depth above 2m and below 3 m** (53135.0-36923) = 16212/-										
	MH20	MH21	600.00	M	1				1.00		
	MH21	MH22	600.00	M	1				1.00		
	MH22	MH23	600.00	M	1				1.00		
	MH23	MH24	600.00	M	1				1.00		
	MH24	MH25	600.00	M	1				1.00		
	MH25	MH26	600.00	M	1				1.00		
	MH26	MH27	600.00	M	1				1.00		
	MH27	MH28	600.00	M	1				1.00		
	MH28	MH29	600.00	M	1				1.00		

Contractor Consultant Assistant Engineer Assistant Executive Engineer

17	Conducting the level and **strip of SURVEY of** alignment of Main sewers of required diameter including all data required for generating GIS map of sewer network, preparation and submission of plan and LS with ground level at 30 M intervals and junction points along the centre line of the alignment etc. showing the right of way, any permanent features, culverts, branch sewer pipe etc. complete as per specifications and as directed by the Engineer in charge with all leadand lifts etc complete for Sewer pipes above 300 mm dia. (BWSSB SR 17-18 No. 123.20 Code T475B) Page 182										
	MHEXE	MH1	600	Rmt	1	82.40			82.40		
	MH1	MH2	600	Rmt	1	31.10			31.10		
	MH2	MH3	600	Rmt	1	31.70			31.70		
	MH3	MH4	600	Rmt	1	30.20			30.20		
	MH4	MH5	600	Rmt	1	29.60			29.60		
	MH5	MH6	600	Rmt	1	35.80			35.80		
	MH6	MH7	600	Rmt	1	30.00			30.00		
	MH7	MH8	600	Rmt	1	27.90			27.90		
	MH8	MH9	600	Rmt	1	33.30			33.30		
	MH9	MH10	600	Rmt	1	30.00			30.00		
	MH10	MH11	600	Rmt	1	36.90			36.90		
	MH11	MH12	600	Rmt	1	29.80			29.80		
	MH12	MH13	600	Rmt	1	28.40			28.40		
	MH13	MH14	600	Rmt	1	30.00			30.00		
	MH14	MH15	600	Rmt	1	30.00			30.00		
	MH15	MH16	600	Rmt	1	34.00			34.00		
	MH16	MH17	600	Rmt	1	25.30			25.30		
	MH17	MH18	600	Rmt	1	26.10			26.10		
	MH18	MH19	600	Rmt	1	34.90			34.90		
	MH19	MH20	600	Rmt	1	33.20			33.20		
	MH20	MH21	600	Rmt	1	33.00			33.00		
	MH21	MH22	600	Rmt	1	36.80			36.80		
	MH22	MH23	600	Rmt	1	33.20			33.20		
	MH23	MH24	600	Rmt	1	34.00			34.00		
	MH24	MH25	600	Rmt	1	33.50			33.50		
	MH25	MH26	600	Rmt	1	25.00			25.00		
	MH26	MH27	600	Rmt	1	27.30			27.30		
	MH27	MH28	600	Rmt	1	33.00			33.00		
	MH28	MH29	600	Rmt	1	42.50			42.50		
	MH29	MH30	600	Rmt	1	30.00			30.00		
	MH30	MH31	600	Rmt	1	33.20			33.20		
	MH31	MH32	600	Rmt	1	30.00			30.00		
	MH32	MH33	600	Rmt	1	29.90			29.90		
	MH33	MH34	600	Rmt	1	32.00			32.00		
	MH34	MH35	600	Rmt	1	35.00			35.00		
	MH35	MH36	600	Rmt	1	23.80			23.80		
	MH36	MH37	600	Rmt	1	26.40			26.40		
	MH37	MH38	600	Rmt	1	29.80			29.80		
	MH38	MH39	600	Rmt	1	32.00			32.00		
								TOTAL	**1271.00**	**29.40**	**37367.40**
18	Providing, erecting and removing casurina pole three tier **BARRICADING** using poles of 7.5 to 10 cms dia. and 1.5M height above ground fixed vertically at intervals of 2.0 to 2.5 M centre to centre and horizontally at 0.5M above ground level, including fixing poles in ground for a maximum depth of 0.3M and tied with coir rope firmly including cost and conveyances of all materials, labour, lead and lifts charges etc. complete (BWSSB SR 17-18 No. 128 Code:T500A) Page 183										
	Qty Taken from Pre measurements Item No. page No.								**1271.00**	**54.6**	**69396.60**
19	**HC Water pumpset (3500 Ltr / Hr) as** per the direction of the Engineer Incharge of the Work with all lead and lift , loading and unloading and allother incidental charges etc. complete as per specification and direction of the engineer-in-charge of the work			DAY	1	30.00			30.00		

Consultant

Assistant Engineer

Assistant Executive Engineer

Byatarayanpura sub division

					1	30.00			30.00		
								TOTAL	60.00	813.750	48825.00
20	KSRB 2.8 : **Providing and filling in foundation with granite / trap broken metal 100 mm. and down size, with** approved sand including hand packing, ramming, watering, including cost of all materials and labour with all lead and lift. complete as per specifications. specification No. KBS.Bedding for pipeline as per the direction of the Engineer Incharge of the Work with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work										
	Qty Taken from Pre measurements Item No. page No.								**305.28**	**2703.48**	**825318.37**
21	**Diversion of water course by** providing Coffer dams or bunds or island as may be necessary for piers and abutments foundations, bailing out or pumping water during excavation and until completion etc., complete. as per the direction of the Engineer Incharge of the Work with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work 37.41.2 -do- beyond 1.50 mts depth upto & including 3m depth.										
	Qty Taken from Pre measurements Item No. page No.								**450.00**	**438.52**	**197334.00**
22	**Dismantling size stone masonry** in lime mortar/cement mortar and stacking the size stone and removing and disposing the debris with all lead & lifts etc complete including cost of all equipments and labour etc., complete as per specifications and as directed by the Engineer in charge as per the direction of the Engineer Incharge of the Work with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work.**For Culver / Drains Crossings**										
	Qty Taken from Pre measurements Item No. page No.								**90.00**	**191.440**	**17229.60**
23	**Providing and constructing granite / trap / basalt size stone** masonry in foundation with cement mortar 1:6 stone hammer dressed in courses not less than 20 cms high, bond stones at two meters apart in each course including cost of materials, labour, curing with all lead and lifts, etc., complete as per specification and as directed by the Engineer in charge. -For Drain walls. Specification No. KBS 5.1.13 with using available stones as per the direction of the Engineer Incharge of the Work with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work										
								TOTAL	**90.00**	**3452.13**	**310691.70**
24	KSRRB M400-6.1 : **Construction of granular sub-base by** providing close graded cushed stone aggregates of granite / trap / basalt material, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications A. Plant Mix Method For Grading-II Material as per the direction of the Engineer Incharge of the Work with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work										
	Qty Taken from Pre measurements Item No. page No.								**305.28**	**2280.54**	**696203.25**

Contractor Consultant Assistant Engineer Assistant Executive Engineer

25	SRRB M400-17 Providing, laying, spreading and compacting 150mm graded stone aggregate to **wet mix macadam (WMM) sp**ecification including premixing the material with water at OMC in mechanical mix plant carriage of mixed material by tipper to site, laying in uniform layers with pavers in sub base/base course on well prepared surface and compacting with vibratory roller to achieve the desired density Grading of material clause: 406 of MORTH specifications, as per the direction of the Engineer Incharge of the Work with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work										
	Qty Taken from Pre measurements Item No. page No.								**305.28**	**2101.34**	**641497.08**
26	KSRRB 500-4 : **Providing and applying primer coat for** surfaces of medium porosity like cement stabilized soil base @ 1.10kg/sqmt over prepared surface with S.S. bitumen emulsion using bitumen taker fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, HOM of machineries complete as per specifications.MORTH / Chapter 5 as per the direction of the Engineer Incharge of the Work with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work										
	MHEXE	MH1	600	Sqm	1	82.40	1.20		98.88		
	MH1	MH2	600	Sqm	1	31.10	1.20		37.32		
	MH2	MH3	600	Sqm	1	31.70	1.20		38.04		
	MH3	MH4	600	Sqm	1	30.20	1.20		36.24		
	MH4	MH5	600	Sqm	1	29.60	1.20		35.52		
	MH5	MH6	600	Sqm	1	35.80	1.20		42.96		
	MH6	MH7	600	Sqm	1	30.00	1.20		36.00		
	MH7	MH8	600	Sqm	1	27.90	1.20		33.48		
	MH8	MH9	600	Sqm	1	33.30	1.20		39.96		
	MH9	MH10	600	Sqm	1	30.00	1.20		36.00		
	MH10	MH11	600	Sqm	1	36.90	1.20		44.28		
	MH11	MH12	600	Sqm	1	29.80	1.20		35.76		
	MH12	MH13	600	Sqm	1	28.40	1.20		34.08		
	MH13	MH14	600	Sqm	1	30.00	1.20		36.00		
	MH14	MH15	600	Sqm	1	30.00	1.20		36.00		
	MH15	MH16	600	Sqm	1	34.00	1.20		40.80		
	MH16	MH17	600	Sqm	1	25.30	1.20		30.36		
	MH17	MH18	600	Sqm	1	26.10	1.20		31.32		
	MH18	MH19	600	Sqm	1	34.90	1.20		41.88		
	MH19	MH20	600	Sqm	1	33.20	1.20		39.84		
	MH20	MH21	600	Sqm	1	33.00	1.20		39.60		
	MH21	MH22	600	Sqm	1	36.80	1.20		44.16		
	MH22	MH23	600	Sqm	1	33.20	1.20		39.84		
	MH23	MH24	600	Sqm	1	34.00	1.20		40.80		
	MH24	MH25	600	Sqm	1	33.50	1.20		40.20		
	MH25	MH26	600	Sqm	1	25.00	1.20		30.00		
	MH26	MH27	600	Sqm	1	27.30	1.20		32.76		
	MH27	MH28	600	Sqm	1	33.00	1.20		39.60		
	MH28	MH29	600	Sqm	1	42.50	1.20		51.00		
	MH29	MH30	600	Sqm	1	30.00	1.20		36.00		
	MH30	MH31	600	Sqm	1	33.20	1.20		39.84		
	MH31	MH32	600	Sqm	1	30.00	1.20		36.00		
	MH32	MH33	600	Sqm	1	29.90	1.20		35.88		
	MH33	MH34	600	Sqm	1	32.00	1.20		38.40		
	MH34	MH35	600	Sqm	1	35.00	1.20		42.00		
	MH35	MH36	600	Sqm	1	23.80	1.20		28.56		
	MH36	MH37	600	Sqm	1	26.40	1.20		31.68		
	MH37	MH38	600	Sqm	1	29.80	1.20		35.76		
	MH38	MH39	600	Sqm	1	32.00	1.20		38.40		
	MH39		600	Sqm	1	32.00	1.20		38.40		
								TOTAL	**1563.60**		
								Qty Limited to	**1526.40**	**48.97**	**74747.81**

Contractor Consultant Assistant Engineer Assistant Executive Engineer

Providing and Laying Semi dense bituminous concrete using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finished to the the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem roller to achieve the desired compaction as per MORTH specification Clause No 508 complete in all respect complete as per specifications. Using 100-120 TPH capacity H.M.P with sensor paver grading-I (35-40mm) with 4.5% NRMB 70 / PMB 70 Grade as per the direction of the Engineer Incharge of the Work with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work

MHEXE	MH1	600	Cum	1	82.40	1.20	0.04	3.96		
MH1	MH2	600	Cum	1	31.10	1.20	0.04	1.49		
MH2	MH3	600	Cum	1	31.70	1.20	0.04	1.52		
MH3	MH4	600	Cum	1	30.20	1.20	0.04	1.45		
MH4	MH5	600	Cum	1	29.60	1.20	0.04	1.42		
MH5	MH6	600	Cum	1	35.80	1.20	0.04	1.72		
MH6	MH7	600	Cum	1	30.00	1.20	0.04	1.44		
MH7	MH8	600	Cum	1	27.90	1.20	0.04	1.34		
MH8	MH9	600	Cum	1	33.30	1.20	0.04	1.60		
MH9	MH10	600	Cum	1	30.00	1.20	0.04	1.44		
MH10	MH11	600	Cum	1	36.90	1.20	0.04	1.77		
MH11	MH12	600	Cum	1	29.80	1.20	0.04	1.43		
MH12	MH13	600	Cum	1	28.40	1.20	0.04	1.36		
MH13	MH14	600	Cum	1	30.00	1.20	0.04	1.44		
MH14	MH15	600	Cum	1	30.00	1.20	0.04	1.44		
MH15	MH16	600	Cum	1	34.00	1.20	0.04	1.63		
MH16	MH17	600	Cum	1	25.30	1.20	0.04	1.21		
MH17	MH18	600	Cum	1	26.10	1.20	0.04	1.25		
MH18	MH19	600	Cum	1	34.90	1.20	0.04	1.68		
MH19	MH20	600	Cum	1	33.20	1.20	0.04	1.59		
MH20	MH21	600	Cum	1	33.00	1.20	0.04	1.58		
MH21	MH22	600	Cum	1	36.80	1.20	0.04	1.77		
MH22	MH23	600	Cum	1	33.20	1.20	0.04	1.59		
MH23	MH24	600	Cum	1	34.00	1.20	0.04	1.63		
MH24	MH25	600	Cum	1	33.50	1.20	0.04	1.61		
MH25	MH26	600	Cum	1	25.00	1.20	0.04	1.20		
MH26	MH27	600	Cum	1	27.30	1.20	0.04	1.31		
MH27	MH28	600	Cum	1	33.00	1.20	0.04	1.58		
MH28	MH29	600	Cum	1	42.50	1.20	0.04	2.04		
MH29	MH30	600	Cum	1	30.00	1.20	0.04	1.44		
MH30	MH31	600	Cum	1	33.20	1.20	0.04	1.59		
MH31	MH32	600	Cum	1	30.00	1.20	0.04	1.44		
MH32	MH33	600	Cum	1	29.90	1.20	0.04	1.44		
MH33	MH34	600	Cum	1	32.00	1.20	0.04	1.54		
MH34	MH35	600	Cum	1	35.00	1.20	0.04	1.68		
MH35	MH36	600	Cum	1	23.80	1.20	0.04	1.14		
MH36	MH37	600	Cum	1	26.40	1.20	0.04	1.27		
MH37	MH38	600	Cum	1	29.80	1.20	0.04	1.43		
MH38	MH39	600	Cum	1	32.00	1.20	0.04	1.54		
MH39	0	600	Cum	1	32.00	1.20	0.04	1.54		
								TOTAL	**62.54**	
								Limited to Tender Qty	**61.00**	**10070.42**	**614295.62**

Contractor Consultant Assistant Engineer Assistant Executive Engineer